Project Name: ST012 EBR Drilling

Boring ID: LSZ43-EBR

Project Number: 9101110001.5310.02 **Date:** 5-22-16

Boring Location:	ST012	**Logged By:**	Garrett Tabor
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-22-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	5-22-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	226	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
0						Hand Auger
5						
10			0.0		SP-SM	**POORLY GRADED SAND WITH SILT & GRAVEL,** 75% predominantly fine to medium grained, subangular to subrounded sand, 15% fine grained, subangular to subrounded gravel, 10% silt, uncemented, nonplastic, brown, dry, no odor, no stains
15			0.0			
20					SM	**SILTY SAND,** 75% fine to medium grained, subangular to subrounded sand, 20% silt, 5% clay, moderately cemented, nonplastic, brown, dry, no odor, no stains
			0.0			
25						

Project Name: ST012 EBR Drilling

Boring ID: LSZ43-EBR

Project Number: 9101110001.5310.02 **Date:** 5-22-16

Boring Location:	ST012	**Logged By:**	Garrett Tabor
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-22-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	5-22-16	**Drilling Method:**	Sonic
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Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	**Soil Classification, Description and Notes** Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
25					SM	**SILTY SAND,** continued note: weakly cemented below 26'
30			0.0			
					SP-SM	**POORLY GRADED SAND WITH SILT & GRAVEL,** predominantly very fine to medium grained, subangular to subrounded sand, 10% silt, 10% fine grained, subangular to subrounded gravel, uncemented, nonplastic, brown, dry, no odor, no stains note: zone of weakly to moderately cemented from 33' to 36'
35			0.0			
					SM	**SILTY SAND,** 75% very fine to medium grained, subangular to subrounded sand, 20% silt, 5% clay, uncemented to weakly cemented, nonplastic, brown, dry, no odor, no stains
40			0.0			
45			0.0			
50						

Project Name: ST012 EBR Drilling

Boring ID: LSZ43-EBR

Project Number: 9101110001.5310.02 **Date:** 5-22-16

Boring Location:	ST012	**Logged By:**	Garrett Tabor
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-22-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	5-22-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	226	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
50			0.0		SM	**SILTY SAND,** continued
						note: lens of fine grained sand & gravel from 52'6" to 53'
						note: moderately cemented from 54' to 56'
55			0.0			
60			0.0		SC	**CLAYEY SAND,** 75% very fine to medium grained 20% clay, 5% silt, uncemented, low plasticity, brown, moist, no odor, no stains
						note: weakly to moderately cemented from 62' to 66'
65			0.0			
70			0.0			
					SP-SM	**POORLY GRADED SAND WITH SILT,** 90% very fine to medium grained sand, 10% silt, uncemented, nonplastic, brown, dry, no odor, no stains
75						

Project Name: ST012 EBR Drilling

Boring ID: LSZ43-EBR

Project Number: 9101110001.5310.02 **Date:** 5-22-16

Boring Location:	ST012	**Logged By:**	Garrett Tabor
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-22-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	5-22-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	226	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
75			0.0		SP-SM	**POORLY GRADED SAND WITH SILT,** continued note: occasional fine grained gravel present below 76'
80			0.0			
					SM	**SILTY SAND,** 70% very fine to medium grained, subangular to subrounded sand, 25% silt, 5% clay, uncemented, nonplastic, brown, dry, no odor, no stains
85			0.0			note: weakly cemented zone from 84' to 86'
90			0.0			
95			0.0			note: low plasticity, 10% clay, less sand from 94' to 96' note: weakly cemented from 96' to 100'
100						

Project Name: ST012 EBR Drilling

Boring ID: LSZ43-EBR

Project Number: 9101110001.5310.02 **Date:** 5-22-16

Boring Location:	ST012	**Logged By:**	Garrett Tabor
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-22-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	5-22-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	226	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
100			0.0		SM	**SILTY SAND,** continued note: weakly cemented from 96' to 106'
105			0.0			
110					SC	**CLAYEY SAND,** 65% very fine to medium grained, subangular to subrounded sand, 25% clay, 10% silt, uncemented, low plasticity, brown, moist, no odor, no stains
115			0.0		SP-SM	**POORLY GRADED SAND WITH SILT & GRAVEL,** 80% predominantly very fine to medium grained, subangular to subrounded sand, 10% silt, 10% fine grained, subangular to subrounded gravel, uncemented, nonplastic, brown, dry, no odor, no stains note: weakly cemented at 114'
120			0.0		SM	**SILTY SAND,** 80% very fine to medium grained sand, 20% silt, weakly to moderately cemented, nonplastic, brown, dry, no odor, no stains
125						

Project Name: ST012 EBR Drilling

Boring ID: LSZ43-EBR

Project Number: 9101110001.5310.02 **Date:** 5-22-16

Boring Location:	ST012	**Logged By:**	Garrett Tabor
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-22-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	5-22-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	226	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
125			0.1		SM	**SILTY SAND,** continued note: uncemented from 124' to 126'
					SC	**CLAYEY SAND,** 70% very fine to medium grained, subangular to subrounded sand, 20% clay, 10% silt, uncemented to weakly cemented, low plasticity, brown, moist, no odor, no stains
130			0.4			note: moderately cemented from 130' to 132'
135			0.5			note: fuel odor below 136'
140			1.7			
					SW-SM	**WELL GRADED SAND WITH GRAVEL & SILT,** 65% very fine to coarse grained, subangular to subrounded sand, 25% fine to coarse grained gravel, 10% silt, uncemented to weakly cemented, nonplastic, brown, dry, fuel odor, no stains
145			1.9			note: encountered water BTOC at 145'
150						

Project Name: ST012 EBR Drilling

Boring ID: LSZ43-EBR

Project Number: 9101110001.5310.02 **Date:** 5-22-16

Boring Location:	ST012	**Logged By:**	Garrett Tabor
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-22-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	5-22-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	226	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
150			138		SW-SM	**WELL GRADED SAND WITH SILT & GRAVEL,** continued
						note: cobble present at 153' & 155', fuel odor present
155			6.0			note: 174° to 188° F at 156'
						note: gravel content increased, fine to coarse grained, subrounded to subangular at 157'
						note: weakly cemented lens about 6" thick at 159'
160			1176	None	CL	**CLAY WITH SAND,** 85% clay, 15% fine to medium grained, subrounded to subangular sand, uncemented, medium plasticity, reddish-brown, slightly moist to moist, mild odor, no stains
						note: cementation increased, strongly cemented nodules at 162'
165			270		SW	**WELL GRADED SAND WITH GRAVEL,** 60% fine to coarse grained, subrounded to subangular sand, 35% fine to coarse grained, subrounded to subangular gravel, 5% silt to clay, uncemented, nonplastic, brown, wet, fuel odor (mild), no stains
170			66.5			
					CL	**CLAY WITH SAND,** 80% clay, 20% fine to medium grained, subrounded to subangular sand, uncemented, medium plasticity, reddish-brown, slightly moist to moist, mild odor, no stains
						note: cementation increased at 172'
175						

Project Name: ST012 EBR Drilling

Boring ID: LSZ43-EBR

Project Number: 9101110001.5310.02 **Date:** 5-22-16

Boring Location:	ST012	**Logged By:**	Garrett Tabor
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-22-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	5-22-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	226	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
175			461		CL	**CLAY WITH SAND,** continued note: sand content increased at 175' note: core fell out of core barrel when retrieved it was mostly composed of clay with sand sluff from 176' to 186'
180			388	None		
185			208			
					CL	**CLAY WITH SAND,** 85% clay, 15% fine grained sand, weakly cemented, medium plasticity, reddish-brown, slightly moist, no odor, no stains
190			164		SM	**SILTY SAND,** 80% fine to medium grained, subrounded to subangular sand, 20% silt, uncemented, nonplastic, gray, moist to wet, no odor, black to gray staining,
195			36.4			note: core was boiling hot, stopped to assess safety from 196' to 206' note: after meeting, decided to take 1 bucket of soil per 10', because of intense heat
				None		note: mostly clay with sand, weakly cemented, dr, no odor, no stains from 196' to 206'
200						

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Boring ID: LSZ43-EBR

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Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-22-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	5-22-16	**Drilling Method:**	Sonic
Total Depth (ft bgs):	226	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
200					SM	**SILTY SAND,** continued
205				None		note: well graded sand, subrounded to subangular, wet, no odor, no stains from 206' to 216' note: pressure release, shut down for the day to find better solution
210						
215				None		note: well graded sand, no fuel odor, no oil in soil indication from 216' to 226'
220						
225						

Project Name: ST012 EBR Drilling

Boring ID: LSZ43-EBR

Project Number: 9101110001.5310.02 **Date:** 5-22-16

Boring Location:	ST012	**Logged By:**	Garrett Tabor
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-22-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:	5-22-16	**Drilling Method:**	Sonic
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Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	**Soil Classification, Description and Notes** Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
225					SM	**SILTY SAND,** continued
						Tota Depth = 226'
230						
235						
240						
245						
250						

Project Name: S1012 EBR Drilling

Boring ID: LSZ44-EBR

Project Number: 9101110001.5310.02 **Date:** 5-10-16

Boring Location:	N/A	**Logged By:**	Kyle Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-10-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:		**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
0			0.0		SC	**CLAYEY SAND,** 70% fine to medium grained, subrounded to subangular sand, 30% clay, uncemented, nonplastic to low plasticity, red to brown, slightly moist, no odor, no stains
5			0.0			
10			0.0			note: silty sand lens at 1' thick at 9'
15			0.0			note: sand clay lens about 1'6" thick at 14'
20			0.0		SM	note: clay content increased at 18' **SILTY SAND,** 80% fine to medium grained, subrounded to subangular sand, 20% silt, uncemented, nonplastic, light brown, slightly moist, no odor, no stains
25					CL	**CLAY WITH SAND,** 70% clay, 30% fine to medium grained, subrounded to subangular sand, uncemented to weakly cemented, medium plasticity, red to brown, slighly moist, no odor, no stains

Project Name: S1012 EBR Drilling

Boring ID: LSZ44-EBR

Project Number: 9101110001.5310.02 **Date:** 5-10-16

Boring Location:	N/A	**Logged By:**	Kyle Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-10-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:		**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	6" I.D., 8" O.D.
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25			0.0		CL	**CLAY WITH SAND,** continued
					SC	**CLAYEY SAND,** 80% fine to medium grained, subrounded to subangular sand, 20% clay, uncemented, nonplastic to low plasticity, brown to red, slightly moist, no odor, no stains
30			0.0			
					SM	**SILTY SAND,** 75% fine to medium grained, subrounded to subangular sand, 25% silt, uncemented, nonplastic, light brown, slightly moist, no odor, no stains
						note: silt content decreased, coarse grained sand content increased at 34'
35			0.0			
					SP-SM	**POORLY GRADED SAND WITH SILT,** 90% fine to medium grained, subrounded to subangular sand, 10% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains
40			0.0			
						note: coarse grained gravel content increased at 41'
						note: clay content increased at 43'
45			0.0			note: clay with sand lens at 45'
					CL	**CLAY WITH SAND**
50						

Project Name: S1012 EBR Drilling

Boring ID: LSZ44-EBR

Project Number: 9101110001.5310.02 **Date:** 5-10-16

Boring Location:	N/A	**Logged By:**	Kyle Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-10-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:		**Drilling Method:**	Sonic
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50			0.0		CL	**CLAY WITH SAND,** 80% clay, 20% fine to medium grained, subrounded to subangular, uncemented to weakly cemented, medium plasticity, brown to red, slightly moist, no odor, no stains
						note: manganese-oxide staining at 53'
						note: sand content increased at 54'
55			0.0			
						note: cementation increased at 58'
60			0.0			
						note: strongly cemented lens about 4" thick at 61'
						note: sand content increased at 63'
						note: silt content increased at 64'
65			0.0			
70			0.0			note: silt lens about 1' thick at 70'
					SM	**SILTY SAND,** 85% fine to coarse grained, subrounded to subangular sand, 15% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains
75						

Project Name: S1012 EBR Drilling

Boring ID: LSZ44-EBR

Project Number: 9101110001.5310.02 **Date:** 5-10-16

Boring Location:	N/A	**Logged By:**	Kyle Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-10-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:		**Drilling Method:**	Sonic
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Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
75			0.0		SM	**SILTY SAND,** continued note: silt content increased at 75' note: coarse grained sand content increased at 76'
80			0.0		CL	**CLAY WITH SAND,** 85% clay, 15% fine grained sand, uncemented, medium plasticity, brown to red, slightly moist to moist, no odor, no stains note: cementation increased at 84'
85			0.0			note: manganese-oxide staining at 88'
					ML	**SILT WITH SAND,** 80% silt, 20% predominantly fine grained sand, uncemented, low plasticity, brown, slightly moist, no odor, no stains
90			0.0			note: clay lens about 6" thick at 91'6"
					SM	**SILTY SAND,** 85% fine to medium grained, subrounded to subangular sand, 15% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains
95			0.0			
					CL	**CLAY WITH SAND,** 75% clay, 25% fine grained sand, uncemented, medium plasticity, red to brown, slightly moist, no odor, no stains
100						

Project Name: S1012 EBR Drilling

Boring ID: LSZ44-EBR

Project Number: 9101110001.5310.02 **Date:** 5-10-16

Boring Location:	N/A	**Logged By:**	Kyle Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-10-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:		**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	6" I.D., 8" O.D.
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Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
100			0.0		CL	**CLAY WITH SAND,** continued
						note: silt content increased at 102'
105			0.0			
					ML	**SILT WITH SAND,** 85% silt (some clay), 15% fine grained sand, uncemented, low plasticity, brown, slightly moist, no odor, no stains
110			0.0		SM	**SILTY SAND,** 75% fine to medium grained, subrounded to subangular sand, 25% silt, uncemented, nonplastic, brown, slightly moist, no odor, no stains
						note: fine grained, subrounded to subangular gravel content increased at 114'
115			0.0			
					CL	**CLAY WITH SAND,** 70% clay, 30% fine to medium grained, subrounded to subangular sand, uncemented to weakly cemented, medium plasticity, brown to red, slightly moist, no odor, no stains
120			0.0			
					ML	**SILT WITH SAND,** 80% silt, 20% fine grained sand, uncemented, low plasticity, brown, slightly moist, no odor, no stains
125						

Project Name: S1012 EBR Drilling

Boring ID: LSZ44-EBR

Project Number: 9101110001.5310.02 **Date:** 5-10-16

Boring Location:	N/A	**Logged By:**	Kyle Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-10-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:		**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	6" I.D., 8" O.D.
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Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
125			0.0		ML	**SILT WITH SAND,** continued
					SC	**CLAYEY SAND,** 60% fine to medium grained, subrounded to subangular sand, 40% clay, uncemented, low plasticity, reddish-brown, slightly moist, no odor, no stains
130			0.0			note: strongly cemented nodules at 130'
						note: 6" thick lens of silty sand at 132'
					CL	**CLAY WITH SAND,** 80% clay, 20% fine grained sand, uncemented, medium plasticity, brown, moist, no odor, no stains
135			0.0			
					SM	**SILTY SAND,** 75% fine to medium grained, subrounded to subangular sand, 25% silt, uncemented, nonplastic, brown, moist, no odor, no stains
140			0.0			
						note: coarse grained sand content increased at 144'
145			0.0			note: fine grained, subrounded to subangular gravel content increased at 145'
					SW-SM	**WELL GRADED SAND WITH SILT,** 90% fine to coarse grained, subrounded to subangular sand, 10% silt, uncemented, nonplastic, brown, wet, no odor, no stains
150						

Project Name: S1012 EBR Drilling

Boring ID: LSZ44-EBR

Project Number: 9101110001.5310.02 **Date:** 5-10-16

Boring Location:	N/A	**Logged By:**	Kyle Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-10-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:		**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
150			0.0		SW-SM	**WELL GRADED SAND WITH SILT,** continued note: coarse grained sand & fine to coarse grained, subrounded to subangular gravel content increased at 150'
155			0.0			note: clay lens about 4" thic at 155'
					CL	**CLAY,** 90% clay, 10% fine grained sand, moderately cemented, medium plasticity, red to brown, slightly moist, no odor, no stains
160			0.0			note: cementation decrease (uncemented to weakly cemented) at 160'
165			0.0			note: cementation decreased (uncemented) at 165'
170			0.0			note: weakly cemented nodules at 169' note: silt with sand lens about 1' thick at 171'
175					SM	**SILTY SAND,** 75% fine to medium grained, subrounded to subangular sand, 25% silt, uncemented, nonplastic, brown, moist to wet, no odor, no stains

Project Name: S1012 EBR Drilling

Boring ID: LSZ44-EBR

Project Number: 9101110001.5310.02 **Date:** 5-10-16

Boring Location:	N/A	**Logged By:**	Kyle Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-10-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:		**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
175			0.0		SM	**SILTY SAND,** continued
					SC	**CLAYEY SAND,** 65% fine to medium grained, subrounded to subangular sand, 35% clay, uncemented, low plasticity, brown, wet, fuel odor, no stains
						note: sand content increased at 178'
180			1.1			
						note: clay content increased at 182'
185			0.0			
						note: fine grained, subrounded to subangular gravel content increased at 189'
190			0.0		CL	**CLAY WITH SAND,** 70% clay, 30% fine to coarse grained, subrounded to subangular sand, uncemented, medium plasticity, brown to red, moist, no odor, no stains
						note: clay content increased at 194'
195			0.2			
						note: clay content increase (100%) at 196'
200						

Project Name: S1012 EBR Drilling

Boring ID: LSZ44-EBR

Project Number: 9101110001.5310.02 **Date:** 5-10-16

Boring Location:	N/A	**Logged By:**	Kyle Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-10-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:		**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
200			3.8		CL	**CLAY WITH SAND,** continued
205			5.3			note: cementation increased at 205'
210			2.8			note: sand content increased & fine grained, subrounded to subangular increased at 209'
						note: faint fuel odor at 212'
			14.8	None		note: clayey sand lens about 1' thick at 213'
215			1.8			note: clay content increased at 216'
220			2.8		SC	**CLAYEY SAND,** 70% fine to medium grained, subrounded to subangular sand, 30% clay (some silt), uncemented, low plasticity, reddish-brown, moist, mild fuel odor, no stains
225						

Project Name: S1012 EBR Drilling

Boring ID: LSZ44-EBR

Project Number: 9101110001.5310.02 **Date:** 5-10-16

Boring Location:	N/A	**Logged By:**	Kyle Keegan
Elevation and Datum:	N/A	**Project Manager:**	Gwen Minnier
Drilling Start Date:	5-10-16	**Drilling Contractor:**	Yellow Jacket Drilling
Drilling Completion Date:		**Drilling Method:**	Sonic
Total Depth (ft bgs):	230	**Drilling Equipment:**	6" I.D., 8" O.D.
Depth to Water (ft bgs):	~146	**Sampling Method:**	Continuous Core

Depth Below Ground Surface (feet)	Graphical Log	Sample ID	PID Meter Reading (ppm)	LNAPL Test (Red, Pink, None)	Unified Soil Classification System	Soil Classification, Description and Notes Name (USCS Symbol): material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, staining, odor. Any additional descriptive information may be included in the soil description or notes.
225			3.2		SC	**CLAYEY SAND,** continued note: clay content decreased, no odor (15%), coarse grained sand content increased at 226'
230			2.3			Total depth = 230'
235						
240						
245						
250						